PROCEDURE

Surgery for pancreatic cancer

Surgery for pancreatic cancer removes part or all of the pancreas and nearby tissue.

PURPOSE
Remove localized cancer and nearby tissue

PROCEDURE TYPE
Therapeutic surgery, open or minimally invasive

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General anaesthesia

HOW LONG IT TAKES
About 4 to 12 hours, based on operation

PREPARATION
Fasting, medication review, nutrition and fitness checks

RECOVERY
Several hospital days; no driving until safely recovered

MAIN RISKS
Pancreatic leak, bleeding, infection, delayed stomach emptying

RESULTS
Surgical findings immediately; pathology usually within one to three weeks

Overview

Surgery for pancreatic cancer removes the tumour together with some surrounding tissue. Depending on where the tumour is, the surgeon may remove part or all of the pancreas and nearby organs.

The pancreas sits behind the stomach. It makes digestive enzymes, which help break down food, and hormones such as insulin, which control blood sugar.

The main operations are:

Surgery offers the possibility of long-term cancer control when the cancer can be completely removed. It cannot guarantee that the cancer will not return.

- Whipple procedure: removes the head of the pancreas, the first part of the small bowel, the gallbladder, part of the bile duct and sometimes part of the stomach

- Distal pancreatectomy: removes the body and tail of the pancreas, often with the spleen
- Total pancreatectomy: removes the whole pancreas, usually with the spleen, gallbladder, part of the bile duct and part of the small bowel

Why the procedure is performed

Surgery is usually considered when scans suggest that pancreatic cancer has not spread to distant organs and can be removed safely.

Some tumours are described as borderline resectable . This means they touch important blood vessels but may still become removable. Chemotherapy, sometimes with radiation therapy, may be given before surgery.

Surgery can also provide tissue for detailed testing. However, diagnosis alone is not usually the main reason for such a major operation.

Operations intended only to relieve a blocked bile duct or bowel are less common because stents can often relieve these problems without major surgery.

Who should and should not have it

You may be offered surgery if the cancer appears removable and you are well enough to recover from a major abdominal operation. Your team will consider scans, biopsy results when available, other health conditions, nutrition and physical fitness.

Surgery may be avoided when cancer has spread to distant organs or surrounds major blood vessels that cannot be safely reconstructed. In these situations, removing the pancreas is unlikely to control the whole cancer.

It may be delayed if you have an active infection, poor nutrition or a medical condition that first needs better control. Treatment before surgery may also be advised when the tumour is borderline resectable or has features suggesting a higher risk of recurrence.

Age alone does not decide eligibility. Your overall health, independence and wishes matter. These operations are complex, so assessment at a centre experienced in pancreatic surgery is important.

How to prepare

Your treating facility's own instructions take priority because fasting rules and medication

plans differ between hospitals and operations.

You will usually have blood tests, scans and an assessment for general anaesthesia. Some people need heart or lung tests. A dietitian may recommend nutritional drinks or pancreatic enzyme capsules if you are losing weight or not digesting food well.

Tell the team about all medicines, supplements and allergies. Blood thinners and some diabetes medicines may need a temporary change. Do not stop prescribed medicine unless the treating team tells you how and when.

You will be told when to stop eating and drinking. Arrange practical help for after discharge and plan for several weeks away from usual duties. Smoking cessation and gentle activity before surgery may support recovery.

What happens during the procedure

You receive general anaesthesia, so you are unconscious and do not feel the operation. Tubes are used to support breathing, give fluids and monitor you.

The surgeon first checks whether the cancer can be removed. Occasionally, previously unseen spread is found. If removal is no longer appropriate, the planned operation may be stopped or changed to relieve a blockage.

For a Whipple procedure, the surgeon removes the pancreatic head and nearby structures. The remaining pancreas, bile duct and stomach are then connected to the small bowel so that food, bile and pancreatic fluid can pass through.

A distal pancreatectomy removes the left side of the pancreas. The spleen is often removed because it shares nearby blood vessels. If your spleen will be removed, your team will discuss vaccinations and infection precautions.

A total pancreatectomy removes the entire pancreas. You will then need lifelong insulin and pancreatic enzyme replacement.

The operation may be open, using one larger abdominal cut, or minimally invasive, using smaller cuts and a camera. Robotic surgery is one form of minimally invasive surgery. The safest approach depends on the tumour, previous operations and the team's experience.

Recovery and what to expect afterward

Pain is expected, especially during the first few days. Pain relief may be given through an epidural, a pump or regular injections and tablets. Tell staff if pain prevents you from breathing

deeply or moving.

Eating usually starts gradually. You may begin with sips and progress to food as your stomach and bowel recover. A dietitian can help with smaller meals, weight loss or greasy stools. Pancreatic enzyme capsules may be needed to digest food.

You will be encouraged to sit out of bed and walk soon after surgery. This supports breathing and lowers the risk of blood clots. You may temporarily have drains, a urinary catheter or a feeding tube.

Do not drive while taking medicines that make you drowsy. Wait until you can comfortably wear a seat belt, turn to check traffic and perform an emergency stop. Your surgeon and insurer may have additional requirements.

Returning to work often takes several weeks and may take longer after an open operation or physically demanding work. Build activity gradually and avoid heavy lifting until your surgical team says the abdominal wound has healed.

Risks and possible complications

Pancreatic surgery is a major operation. Possible complications include:

Further procedures may be needed to drain fluid, stop bleeding or treat a leak. Rarely, another operation is required. There is also a risk of death around the time of surgery. Your surgeon should explain your individual risk based on the planned operation and your health.

- Leakage of pancreatic fluid, bile or digestive contents from a surgical connection
- Bleeding, wound infection or infection inside the abdomen
- Slow stomach emptying, causing nausea, vomiting or difficulty eating
- Blood clots, chest infection or heart problems
- New or worsening diabetes
- Poor digestion, weight loss and the need for pancreatic enzymes

Results and follow up

The surgeon may explain the immediate findings soon after the operation. The full result comes from pathology , which is laboratory examination of the removed tissue.

The pathology report describes the cancer type, size, lymph nodes and surgical margins. A clear margin means no cancer cells were seen at the cut edge, although it cannot prove that no

cancer cells remain elsewhere.

Results are often available within one to three weeks. Your team will review them with you and discuss whether chemotherapy is appropriate after recovery. Follow-up may include appointments, blood tests and scans.

Longer-term care may include diabetes treatment, pancreatic enzymes, nutrition support and vaccinations if your spleen was removed.

Alternatives

The realistic alternatives depend on whether the cancer is removable and on your treatment goals.

Choosing not to have surgery is an option. Ask what each choice means for symptom control, recovery time and the possibility of controlling the cancer.

- Chemotherapy: treats cancer throughout the body and avoids major surgery, but usually does not offer the same chance of long-term control for removable cancer
- Chemotherapy before reconsidering surgery: may shrink or control borderline tumours, but surgery may still remain unsafe or unnecessary afterward
- Radiation therapy: can help control a tumour in a specific area, often with chemotherapy, but does not remove it
- Bile duct or bowel stenting: can relieve blockage with a less invasive procedure, but does not remove or control the cancer
- Supportive or palliative care: focuses on comfort, digestion, pain and quality of life without cancer-directed surgery

When to call your healthcare team

Contact your surgical team promptly for fever, increasing wound redness, pus, worsening abdominal pain, repeated vomiting or inability to drink. Also call about new jaundice, rapidly increasing drain fluid, persistent diarrhoea, greasy stools or unexplained weight loss.

If you use insulin, follow the blood sugar plan provided at discharge. Seek prompt advice for repeated readings outside your target range or symptoms of very low blood sugar.

Call emergency services for severe breathing difficulty, chest pain, fainting, confusion, heavy bleeding or a suddenly swollen and painful leg. These are emergency symptoms rather than routine recovery concerns.

For routine questions about appetite, enzymes, wound care, activity or follow-up appointments, contact the team during normal clinic hours.

Common questions

Will I be asleep?

Yes. Pancreatic cancer surgery is performed under general anaesthesia. You will be unconscious throughout the operation.

Can I drive home?

No. You will stay in hospital after surgery and need someone to take you home when discharged. Do not resume driving until you can control the vehicle safely and are no longer taking sedating pain medicine.

How painful is it?

Pain is common but should be treated. It usually improves as the wound heals. Tell your team if pain is worsening or is not controlled by the prescribed medicine.

When will I know the results?

The surgeon may discuss what was found soon afterward. The final pathology report usually takes one to three weeks.

Will I need chemotherapy after surgery?

Many people are offered chemotherapy, but the decision is based on recovery, pathology results, previous treatment and overall health.

Can I live without my pancreas?

Yes, but total removal causes permanent diabetes and loss of digestive enzymes. You will need lifelong insulin, enzyme capsules and specialist follow-up.

Sources

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